

REMARKS

Claims 1 through 18 are in the application, with Claims 1, 6, 11 and 16, the independent claims herein, each having been amended. No new matter has been added. Reconsideration and further examination are respectfully requested.

Claims 1-3 and 11-13 are rejected under 35 U.S.C. §102 as allegedly being anticipated by U. S. Patent No. 6,599,779 ("Shim"); Claims 6-8 are rejected under 35 U.S.C. §103 over Shim; and Claims 16-18 are rejected under 35 U.S.C. §103 over Shim in view of U.S. Patent No. 6,713,810 ("Bhattacharyya"). Reconsideration and withdrawal of the rejections are respectfully requested.

Claims 1 and 16

Amended independent Claim 1 relates to an apparatus. The apparatus includes an integrated circuit die, an integrated circuit package coupled to a first face of the integrated circuit die, and mold compound in contact with the integrated circuit die and the integrated circuit package. The mold compound includes a face substantially coplanar with a second face of the integrated circuit die, and the apparatus further includes an overlayer coupled to the face of the mold compound and to the second face of the integrated circuit die. As described at page 3, lines 19-20 of the present specification, the claimed overlayer may reduce a tendency of the mold compound to delaminate from the die and/or the package.

The art of record is not seen to disclose or to suggest the foregoing features of Claim 1. More particularly, the art of record is not seen to disclose or to suggest an overlayer coupled to a face of mold compound and to a second face of an integrated circuit die that is substantially coplanar with the face of the mold compound.

Shim describes a system to mount a heatsink to a semiconductor device. As shown in FIG. 2 of Shim, die 12 is coupled to substrate 13 and mold compound 34 contacts portions of an upper surface of die 12 as well as the sides of die 12. Thermally-conductive material 19 contacts other portions of the upper surface of die 12 and heatsink 10 is mounted to material 19.

Shim does not disclose a face of mold compound 34 that is substantially coplanar with a face of die 12. Accordingly, material 19 cannot be seen to disclose an overlayer coupled to a

face of mold compound and to a second face of an integrated circuit die that is substantially coplanar with the face of the mold compound. Consequently, overlayer 19 cannot provide the above-described resistance to delamination that may be provided by some embodiments of Claim 1.

The remaining art of record has been reviewed and is not seen to remedy the foregoing deficiencies in Shim. Specifically, Bhattacharyya is not seen to add any relevant description that, alone or in combination with Shim, would disclose or suggest an overlayer coupled to a face of mold compound and to a second face of an integrated circuit die that is substantially coplanar with the face of the mold compound.

Amended independent Claim 1 is therefore believed to be in condition for allowance. Claims 2-5 depend from Claim 1 and are also believed to be in condition for allowance for at least those reasons provided above with respect to Claim 1.

Amended independent Claim 16 relates to a system including the elements of amended Claim 1. For at least the foregoing reasons, Claim 16 and dependent Claims 17 and 18 are also believed to be allowable.

Claim 6

Amended independent Claim 6 relates to an apparatus including an integrated circuit package substrate, and a plurality of integrated circuit die, wherein a first face of each of the plurality of integrated circuit die is attached to the integrated circuit package substrate. The apparatus also includes mold compound in contact with the plurality of integrated circuit die and the integrated circuit package substrate, the mold compound comprising a face substantially coplanar with a second face of each of the plurality of integrated circuit die, and an overlayer coupled to the face of the mold compound and to the second face of each of the plurality of integrated circuit die.

The art of record is not seen to disclose or to suggest at least an overlayer coupled to a face of mold compound and to second faces of each of a plurality of integrated circuit die that are substantially coplanar with the face of the mold compound. As described above, mold compound 34 of Shim does not include any face that can be remotely seen as substantially

coplanar with a face of die 12. Shim therefore cannot be seen to disclose or suggest that overlayer 19 is coupled to a face of mold compound 34 and to second faces of each of a plurality of integrated circuit die that are substantially coplanar with the face of mold compound 34.

Amended Claim 6 and its respective dependent Claims 7-10 are believed to be allowable.

Claim 11

Claim 11 concerns a method including placing an overlayer in contact with a face of mold compound and a first face of an integrated circuit die substantially coplanar with the face of the mold compound. According to the method, a second face of the integrated circuit die is coupled to an integrated circuit package and the mold compound is in contact with the integrated circuit die and the integrated circuit package.

Shim does not disclose a face of mold compound 34 that is substantially coplanar with a face of die 12. Accordingly, Shim cannot be seen to disclose or to suggest placing an overlayer in contact with a face of mold compound 34 and a first face of integrated circuit die 12 substantially coplanar with the face of mold compound 34. Amended independent Claim 11 and dependent Claims 12 -15 are therefore believed to be allowable.

CONCLUSION

The outstanding Office Action presents a number of characterizations regarding the applied references, some of which are not directly addressed herein because they are not related to the rejections of the independent claims. Applicants do not necessarily agree with the characterizations and reserve the right to further discuss those characterizations.

For at least the reasons given above, it is submitted that the entire application is in condition for allowance and such action is respectfully requested at the Examiner's earliest convenience. Alternatively, if there remains any question regarding the present application or any of the cited references, or if the Examiner has any further suggestions for expediting allowance of the present application, the Examiner is kindly invited to contact the undersigned via telephone at (203) 972-0049.

Respectfully submitted,

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Date



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